

**REMARKS**

**Summary Of The Office Action & Formalities**

Claims 1-14 are pending. By this Amendment, Applicant is canceling claims 1 and 2 without prejudice or disclaimer, amending claim 13, and adding new claims 15-21. No new matter is added.

Applicant thanks the Examiner for acknowledging the claim to foreign priority and for confirming that the certified copy of the priority document was received.

Applicant also thanks the Examiner for initialing the references listed on form PTO/SB/08 submitted with the Information Disclosure Statement filed on July 17, 2003.

Applicant is amending the specification to correct a minor typographical error.

The prior art rejections are summarized as follows:

1. Claims 1 and 2 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keys (USP 6,456,773).

2. Claims 3-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keys (USP 6,456,773) in view of Akasaka et al. (USP 5,673,354).

Applicant respectfully traverses.

**Claim Rejections - 35 U.S.C. § 103**

*1. Claims 1 And 2 Over Keys (USP 6,456,773).*

In rejecting claims 1 and 2 over Keys (USP 6,456,773), the grounds of rejection state:

Keys discloses a module including a structure (300) with a plurality of submodules (325, 350) which are in series and separable from the structure. Furthermore, Keys discloses the submodules to be interconnected by more than one connection and

each submodule includes a support/spool to which at least one compensation fiber (416, 418) is fixed. (Figures 3 and 4)

Keys fails to specifically disclose the interconnected connections to be identifiable to the naked eye without optical measurements. However, it can be observed the boot connectors (427, 435) and adapters (410, 412) are placed on the exterior of the housing. Since the connections can be seen on the exterior of the structure and one of ordinary skill in the art would recognize the boot connectors and adapters as interconnecting pieces and furthermore, it would be advantageous for the connection pieces to be identifiable for easy and convenience, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to be able to identify the interconnected connections.

Keys also fails to disclose the same compensation fiber to be used in all of the submodules. However, Keys discloses any type of compensation fiber can be coupled to the communication system. Furthermore, Keys discloses the appropriate fiber should be used in order to gain the result intended. (Column 4) Keys' disclosure is more particularly drawn to the module itself than the optical fibers. Since Applicant does not specifically state or disclose an advantage to using the same fibers and Applicant further discloses the uses of two different compensating fibers, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the same kind of compensating fibers in the submodules since Keys teaches the use of the appropriate fiber and Applicant fails to specifically disclose the use of the same fiber to solve a stated problem or is for a particular purpose.

Office Action at pages 2-3.

In order to expedite issuance of a patent and without prejudice or disclaimer, Applicant is canceling claims 1 and 2, thereby rendering this rejection moot.

*2. Claims 3-14 Over Keys (USP 6,456,773) In View Of Akasaka et al. (USP 5,673,354).*

In rejecting claims 3-14 over Keys (USP 6,456,773) in view of Akasaka et al. (USP 5,673,354), the grounds of rejection state:

Keys discloses a module including a structure (300) with a plurality of submodules (325, 350) which are in series and separable from the structure. Furthermore, Keys discloses the submodules to be interconnected by more than one connection and each submodule includes a support/spool to which at least one compensation fiber (416, 418) is fixed. (Figures 3 and 4)

Keys fails to specifically disclose the interconnected connections to be identifiable to the naked eye without optical measurements. However, it can be observed the boot connectors (427, 435) and adapters (410, 412) are placed on the exterior of the housing. Since the connections can be seen on the exterior of the structure and one of ordinary skill in the art would recognize the boot connectors and adapters as interconnecting pieces and furthermore, it would be advantageous for the connection pieces to be identifiable for easy and convenience, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to be able to identify the interconnected connections.

Keys also fails to disclose different compensation fiber to be used in the submodules. However, Keys discloses any type of compensation fiber can be coupled to the communication system. Furthermore, Keys discloses the appropriate fiber should be used in order to gain the result intended. (Column 4) Keys' disclosure is more particularly drawn to the module itself than the optical fibers. Since Applicant does not specifically state or disclose an advantage to using the different fibers and Applicant further discloses the use of the same compensating fibers, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have different kinds of compensating fibers in the submodules since Keys teaches the use of the appropriate fiber and Applicant fails to specifically disclose the use of different fibers to solve a stated problem or is for a particular purpose.

Keys further fails to disclose the dispersion compensation ratio to be between 0.9 to 1.1. However, Akasaka et al discloses the perfect dispersion compensation ratio of a wavelength from 1530 nm to 1570 nm (spectral band C) to be between 0.75 and 1.25. Since the ratio disclosed by Akasaka et al is a known range and Keys is silent on the dispersion ratio, it would have been obvious at the time the invention was made to a person having

ordinary skill in the art to have a dispersion compensation [ratio]  
between 0.9 and 1.1.

Office Action at pages 3-4.

Keys is completely silent with respect to modules having submodules to provide chromatic dispersion in an optical fiber line operating over multiple bands. To the contrary, Keys addresses the problem of requiring a unique length of DCF to provide proper dispersion for a given length of line fiber. Keys does not, however, address the problem of modular DCF devices that can be easily modified to address chromatic dispersion in a line fiber that initially operates in a particular band, but that is later upgraded to operate in a different band or an additional band. That is, Keys does not teach or suggest modifying the optical device for different bands. Quite the opposite, in Keys, simply the lengths of the DCF fiber segments are modified by changing spools and no account is made for later upgrades for signal transmissions in different bands.

Therefore, Applicant respectfully submits that Keys, whether taken alone or together with Akasaka et al., does not teach or render obvious claims 3-14, since Keys does not address chromatic compensation with modules having compensation optical fibers of different kinds. To the contrary, in Keys, the fibers in each spool are of the same kind.

In view of at least the foregoing differences, the Examiner is kindly requested to reconsider and withdraw the rejection of claims 3-14.

*New Claims*

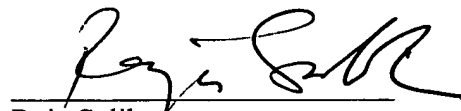
For additional claim coverage merited by the scope of the invention, Applicant is adding new claims 15-21. Claims 15-20 are believed to be allowable because the prior art does not

teach the method of operating an optical fiber line in multiple bands using a module and submodules for dispersion compensation as recited in these claims, or a module with modular submodules for chromatic compensation of fibers operating in multiple bands. Claim 21 is believed to be allowable by reason of its dependency and because it recites that each of the compensation fibers has negative dispersion.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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**23373**

CUSTOMER NUMBER

Date: August 11, 2005